

Listing of Claims:

1. (Currently Amended) A radar oscillator comprising:

an oscillating unit having amplifier means, ~~and in order to contribute to oscillation at a predetermined frequency together with the amplifier means, at least one of a feedback circuit~~

5 which applies a positive feedback from an output side to an input side of the amplifier means and a resonator which resonates at the predetermined frequency, the feedback circuit and the

resonator cooperating with the amplifier means to enable oscillation at a predetermined frequency, the resonator being

10 connected to an input section or output section of the amplifier means, and the oscillating unit outputting and stopping an

oscillation signal having the predetermined frequency from the output side of the amplifier means in an oscillating state and an oscillation stop state, respectively; and

15 switching means connected to the oscillating unit, the switching means ~~being composed of~~ including an electronic switch which ~~[[,]]~~ receives a pulse signal indicating a transmission timing of a radar wave ~~[[,]]~~ and ~~alternately~~ changes an operating state of the oscillating unit ~~between~~ to the oscillating state at

20 a first level of the pulse signal and the oscillation stop state at ~~first and a second levels~~ level of the pulse signal in order to intermit an output of the oscillation signal in response to a level of the pulse signal;

25 wherein the amplifier means includes an amplifier provided
in an output stage of the oscillating unit;

wherein the oscillating unit has a power supply line for the
amplifier means in the oscillating unit; and

30 wherein the switching means includes a first switch which
opens or closes the power supply line for the amplifier means in
the oscillating unit based on the pulse signal indicating the
transmission timing of the radar wave, thereby changing the
operating state of the oscillating unit to the oscillating state
or the oscillation stop state.

 2. (Currently Amended) A radar oscillator according to
claim 1, ~~characterized in that the oscillating unit has both of~~
~~the feedback circuit which applies a positive feedback from the~~
~~output side to the input side of the amplifier means and the~~
5 ~~resonator which resonates at the predetermined frequency, the~~
~~resonator being connected to the input section or output section~~
~~of the amplifier means, and outputs and stops the oscillation~~
~~signal having the predetermined frequency determined by the~~
~~resonator from the output side of the amplifier means in the~~
10 ~~oscillating state and the oscillation stop state~~ wherein the
oscillating unit has a high frequency earth line, and the
switching means includes a second switch which opens or closes
between at least one of the input section and the output section

15 of the amplifier means in the oscillating unit and the high
frequency earth line of the oscillating unit based on the pulse
signal indicating the transmission timing of the radar wave,
thereby changing the operating state of the oscillating unit to
the oscillating state or the oscillation stop state.

3. (Withdrawn-Currently Amended) A radar oscillator
according to claim 1, ~~characterized in that~~ wherein:

the oscillating unit has a plurality of amplifiers
cascade-connected to each other as the amplifier means; ~~also has~~
5 ~~both of~~

the feedback circuit ~~which applies~~ is arranged to apply a
positive feedback to the input side of an amplifier at a first
stage from the output side of an amplifier at a final stage of
the plurality of amplifiers ~~and the resonator which resonates at~~
10 ~~the predetermined frequency,~~ and the resonator ~~being~~ is connected
to a cascade-connecting section of the plurality of amplifiers;
and

the oscillating unit outputs and stops the oscillation
signal having the predetermined frequency determined by the
15 resonator from the output side of the amplifier at the final
stage of the plurality of amplifiers in the oscillating state and
the oscillation stop state.

Claims 4-8 (Canceled).

9. (Currently Amended) A radar oscillator ~~according to claim 1,~~ characterized in that comprising:

an oscillating unit having amplifier means and at least one of a feedback circuit which applies a positive feedback from an output side to an input side of the amplifier means and a resonator which resonates at the predetermined frequency, the at least one of the feedback circuit and the resonator cooperating with the amplifier means to enable oscillation at a predetermined frequency, the resonator being connected to an input section or output section of the amplifier means, and the oscillating unit outputting and stopping an oscillation signal having the predetermined frequency from the output side of the amplifier means in an oscillating state and an oscillation stop state, respectively; and

switching means connected to the oscillating unit, the switching means including an electronic switch which receives a pulse signal indicating a transmission timing of a radar wave and changes an operating state of the oscillating unit to the oscillating state and the oscillation stop state at first and second levels of the pulse signal in order to intermit an output of the oscillation signal in response to a level of the pulse signal;

wherein the oscillating unit selectively has a high frequency earth line, a power supply line for the amplifier means in the oscillating unit, and an element to set the oscillating unit outside of ~~an oscillation enable~~ a normal operation range, and

wherein the switching means includes a plurality of switches obtained by selectively combining:

a first switch which opens or closes between at least one of the input section and the output section of the amplifier means in the oscillating unit and the high frequency earth line based on the pulse signal indicating the transmission timing of the radar wave, thereby ~~alternately~~ changing the operating state of the oscillating unit ~~between~~ to the oscillating state ~~and or~~ the oscillation stop state;

a second switch which connects or disconnects the element to set the oscillating unit outside of the ~~oscillation enable~~ normal operation range to and from the oscillating unit based on the pulse signal indicating the transmission timing of the radar wave, thereby ~~alternately~~ changing the operating state of the oscillating unit ~~between~~ to the oscillating state ~~and or~~ the oscillation stop state; and

a third switch which opens or closes the power supply line for the amplifier means in the oscillating unit based on the pulse signal indicating the transmission timing of the radar

wave, thereby ~~alternately~~ changing the operating state of the oscillating unit ~~between to~~ the oscillating state ~~and or~~ the oscillation stop state.

Claim 10 (Canceled).

11. (Currently Amended) A radar oscillator according to claim [[2]] 1, ~~characterized in that wherein~~ the oscillating unit has an element to set a resonance frequency of the oscillator in the oscillating unit to a frequency which prevents a positive
5 feedback from the output side to the input side of the amplifier means, thereby setting the resonance frequency outside of ~~an oscillation enable~~ a normal operation range in the oscillating unit, and

the switching means includes a ~~second~~ third switch which
10 connects or disconnects the element to set the resonance frequency of the resonator in the oscillating unit outside of the ~~oscillation enable~~ normal operation range to and from the oscillating unit based on the pulse signal indicating the transmission timing of the radar wave, thereby ~~alternately~~
15 changing the operating state of the oscillating unit ~~between to~~ the oscillating state ~~and or~~ the oscillation stop state.

12. (Currently Amended) A radar oscillator according to
claim 2, ~~characterized in that the oscillating unit has a power
supply line for the amplifier means in the oscillating unit, and
the switching means includes a third switch which opens or closes
the power supply line for the amplifier means in the oscillating
unit based on the pulse signal indicating the transmission timing
of the radar wave, thereby alternately changing the operating
state of the oscillating unit between the oscillating state and
the oscillation stop state~~

wherein the oscillating unit has an element to set a
resonance frequency of the oscillator in the oscillating unit to
a frequency which prevents a positive feedback from the output
side to the input side of the amplifier means, thereby setting
the resonance frequency outside of a normal operation range in
the oscillating unit; and

the switching means includes a third switch which connects
or disconnects the element to set the resonance frequency of the
resonator in the oscillating unit outside of the normal operation
range to and from the oscillating unit based on the pulse signal
indicating the transmission timing of the radar wave, thereby
changing the operating state of the oscillating unit to the
oscillating state or the oscillation stop state.

13. (Currently Amended) A radar oscillator ~~according to~~
~~claim 2, characterized in that~~ comprising:

an oscillating unit having amplifier means, a feedback
circuit which applies a positive feedback from an output side to
5 an input side of the amplifier means and a resonator which
resonates at the predetermined frequency, the feedback circuit
and the resonator cooperating with the amplifier means to enable
oscillation at a predetermined frequency, the resonator being
connected to an input section or output section of the amplifier
10 means, and the oscillating unit outputting and stopping an
oscillation signal having the predetermined frequency from the
output side of the amplifier means in an oscillating state and an
oscillation stop state, respectively; and

switching means connected to the oscillating unit, the
15 switching means including an electronic switch which, receives a
pulse signal indicating a transmission timing of a radar wave,
and changes an operating state of the oscillating unit to the
oscillating state and the oscillation stop state at first and
second levels of the pulse signal in order to intermit an output
20 of the oscillation signal in response to a level of the pulse
signal;

wherein the resonator is connected to the input section or
output section of the amplifier means, and the oscillating unit
outputs and stops the oscillation signal having the predetermined

25 frequency determined by the resonator from the output side of the
amplifier means in the oscillating state and the oscillation stop
state, respectively;

wherein the oscillating unit selectively has a high
frequency earth line, a power supply line for the amplifier means
30 in the oscillating unit, and an element to set a resonance
frequency of the resonator in the oscillating unit outside of ~~an~~
~~oscillation enable~~ a normal operation range in the oscillating
unit, and

wherein the switching means includes a plurality of switches
35 obtained by selectively combining:

a first switch which opens or closes between at least
one of the input section and the output section of the amplifier
means in the oscillating unit and the high frequency earth line
based on the pulse signal indicating the transmission timing of
40 the radar wave, thereby ~~alternately~~ changing the operating state
of the oscillating unit ~~between~~ to the oscillating state ~~and or~~
the oscillation stop state;

a second switch which connects or disconnects the
element to set the resonance frequency of the resonator in the
45 oscillating unit outside of the ~~oscillation enable~~ normal
operation range to and from the ~~resonator~~ oscillating unit based
on the pulse signal indicating the transmission timing of the
radar wave, thereby ~~alternately~~ changing the operating state of

the oscillating unit ~~between~~ to the oscillating state ~~and or~~ the
50 oscillation stop state; and

a third switch which opens or closes the power supply
line for the amplifier means in the oscillating unit based on the
pulse signal indicating the transmission timing of the radar
wave, thereby ~~alternately~~ changing the operating state of the
55 oscillating unit ~~between~~ to the oscillating state ~~and or~~ the
oscillation stop state.

14. (Withdrawn-Currently Amended) A radar oscillator
according to claim 3, ~~characterized in that~~ wherein the
oscillating unit has a high frequency earth line, and

the ~~switching means includes a first switch which opens or~~
5 ~~closes~~ is arranged to open or close between at least one of the
input section of the amplifier at a first stage of the plurality
of amplifiers and the output section of the amplifier at a final
stage of the plurality of amplifiers and the high frequency earth
line of the oscillating unit based on the pulse signal indicating
10 the transmission timing of the radar wave, thereby ~~alternately~~
changing the operating state of the oscillating unit ~~between~~ to
the oscillating state ~~and or~~ the oscillation stop state.

15. (Withdrawn-Currently Amended) A radar oscillator
according to claim 3, ~~characterized in that~~ wherein the

oscillating unit has an element to set the oscillating unit to a frequency which prevents a positive feedback from the output side
5 to the input side of the amplifier means, thereby setting the resonance frequency outside of ~~an oscillation enable~~ a normal operation range, and

the switching means includes a second switch which connects or disconnects the element to set the oscillating unit outside of
10 the ~~oscillation enable~~ normal operation range to and from the oscillating unit based on the pulse signal indicating the transmission timing of the radar wave, thereby ~~alternately~~ changing the operating state of the oscillating unit ~~between to~~ the oscillating state ~~and or~~ the oscillation stop state.

16. (Withdrawn-Currently Amended) A radar oscillator according to claim 3, ~~characterized in that~~ wherein the oscillating unit has a power supply line for said plurality of amplifiers serving as the amplifier means in the oscillating
5 unit, and

the switching means includes a third switch which opens or closes the power supply line for at least one amplifier of the plurality of amplifiers in the oscillating unit based on the pulse signal indicating the transmission timing of the radar
10 wave, thereby ~~alternately~~ changing the operating state of the

oscillating unit ~~between~~ to the oscillating state ~~and or~~ the
oscillation stop state.

17. (Withdrawn-Currently Amended) A radar oscillator
according to claim 3, ~~characterized in that~~ wherein the
oscillating unit selectively has a high frequency earth line, a
power supply line for said plurality of amplifiers serving as the
5 amplifier means in the oscillating unit, and an element to set
the oscillating unit outside of ~~an oscillation enable~~ a normal
operation range, and

the switching means includes a plurality of switches
obtained by selectively combining:

10 [[a]] the first switch which opens or closes between at
least one of the input section of the amplifier at the most
frontal stage of said plurality of amplifiers serving as the
amplifier means in the oscillating unit and the output section of
the amplifier at the final stage of said plurality of amplifiers
15 and the high frequency earth line of the oscillating unit based
on the pulse signal indicating the transmission timing of the
radar wave, thereby ~~alternately~~ changing the operating state of
the oscillating unit ~~between~~ to the oscillating state ~~and or~~ the
oscillation stop state;

20 a second switch which connects or disconnects the
element to set the oscillating unit outside of the ~~oscillation~~

~~enable~~ normal operation range to and from the oscillating unit based on the pulse signal indicating the transmission timing of the radar wave, thereby ~~alternately~~ changing the operating state of the oscillating unit ~~between~~ to the oscillating state ~~and or~~ the oscillation stop state; and

a third switch which opens or closes the power supply line for at least one amplifier of the plurality of amplifiers in the oscillating unit based on the pulse signal indicating the transmission timing of the radar wave, thereby ~~alternately~~ changing the operating state of the oscillating unit ~~between~~ to the oscillating state ~~and or~~ the oscillation stop state.

Claims 18-25 (Canceled).